CCOS TC Meeting
10/19/2005

Presented by:

Shawn Ferreria

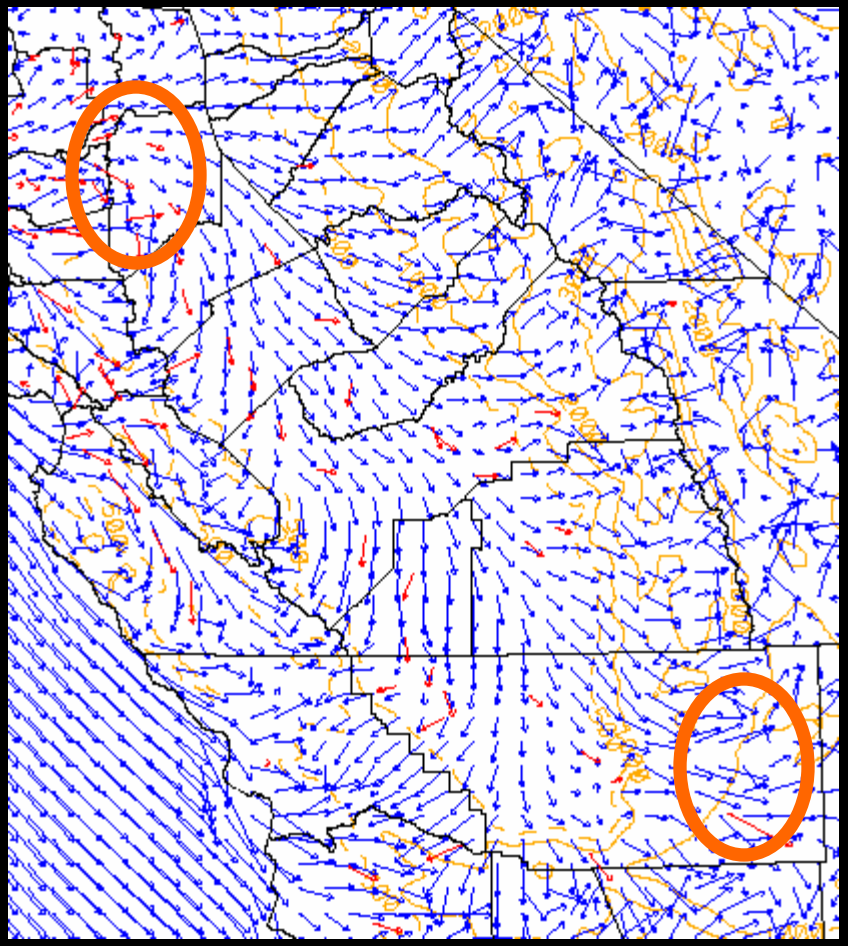
Project Planner

San Joaquin Valley Air Pollution Control District

SJVAPCD MM5 Evaluation

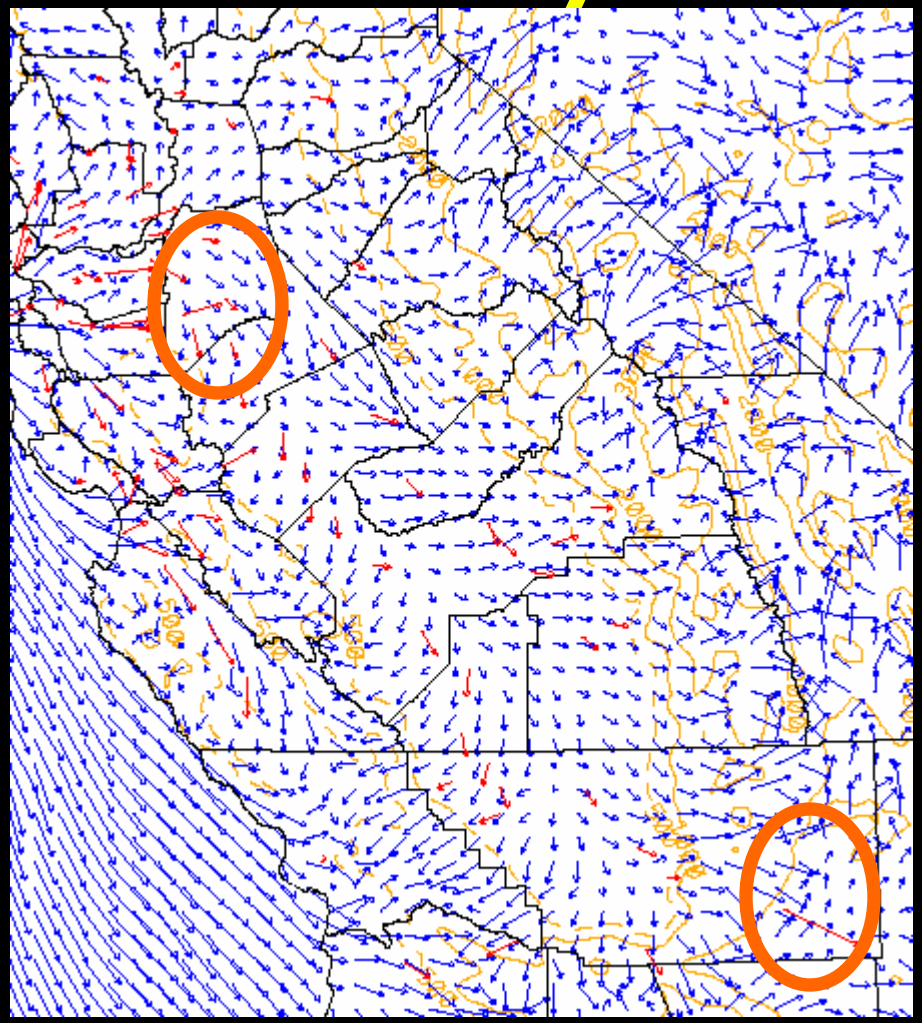
- Circulation and Surface Features
- Mixing Depth Issues
- Timing Issues

Mass Continuity?



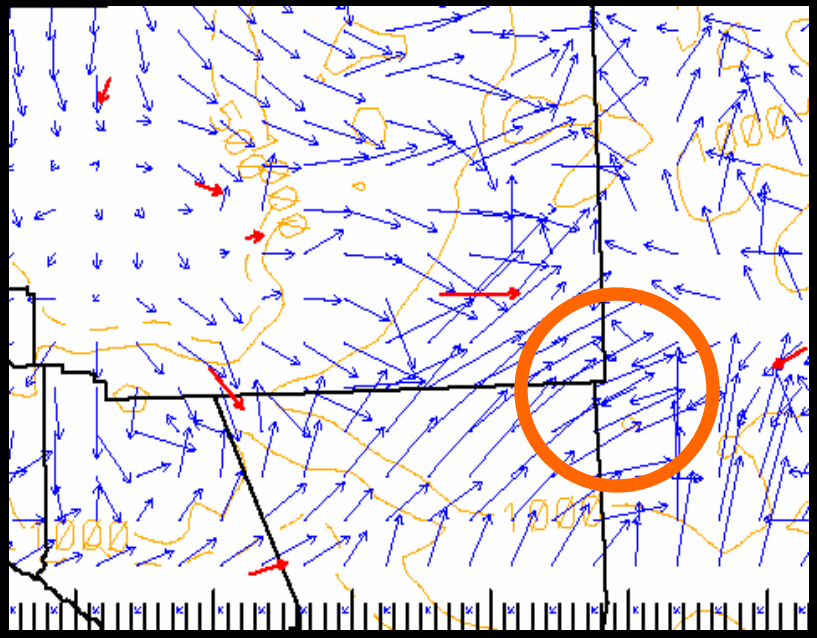
B01 (fdda): 7/30, 15:00 – 16:00 (Weak flow in, moderate flow out)

Mass Continuity?

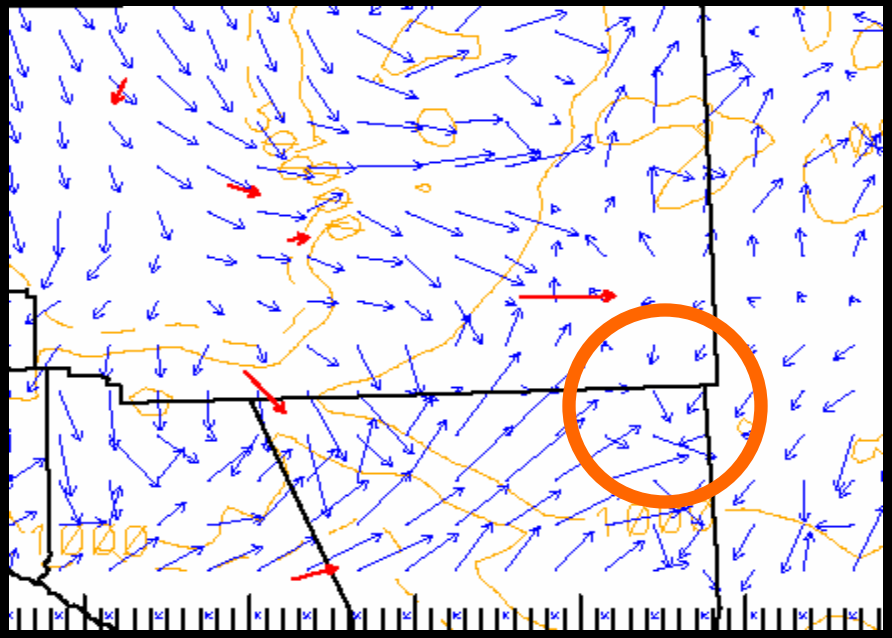


B02 (non-fdda): 7/30, 16:00 (flow in, flow out)

Transport flow between Air Basins

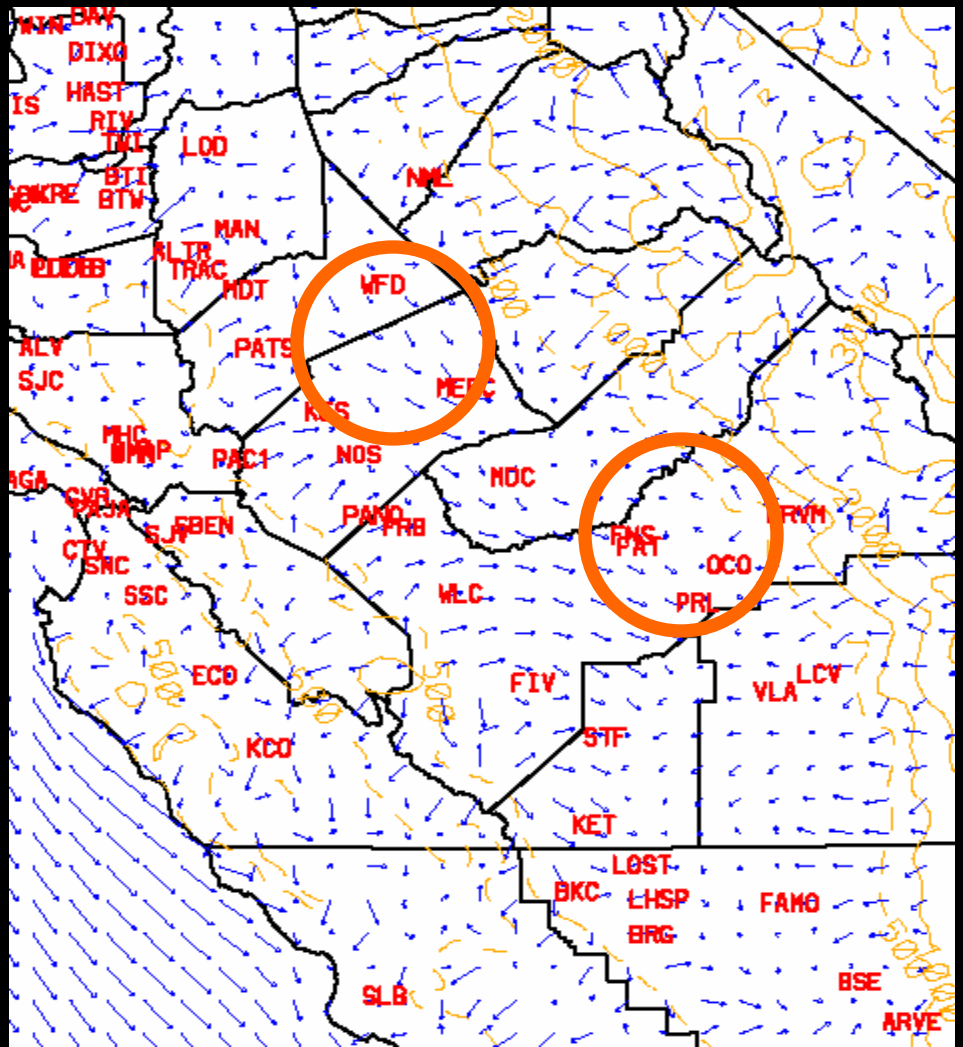


B01 (fdda)

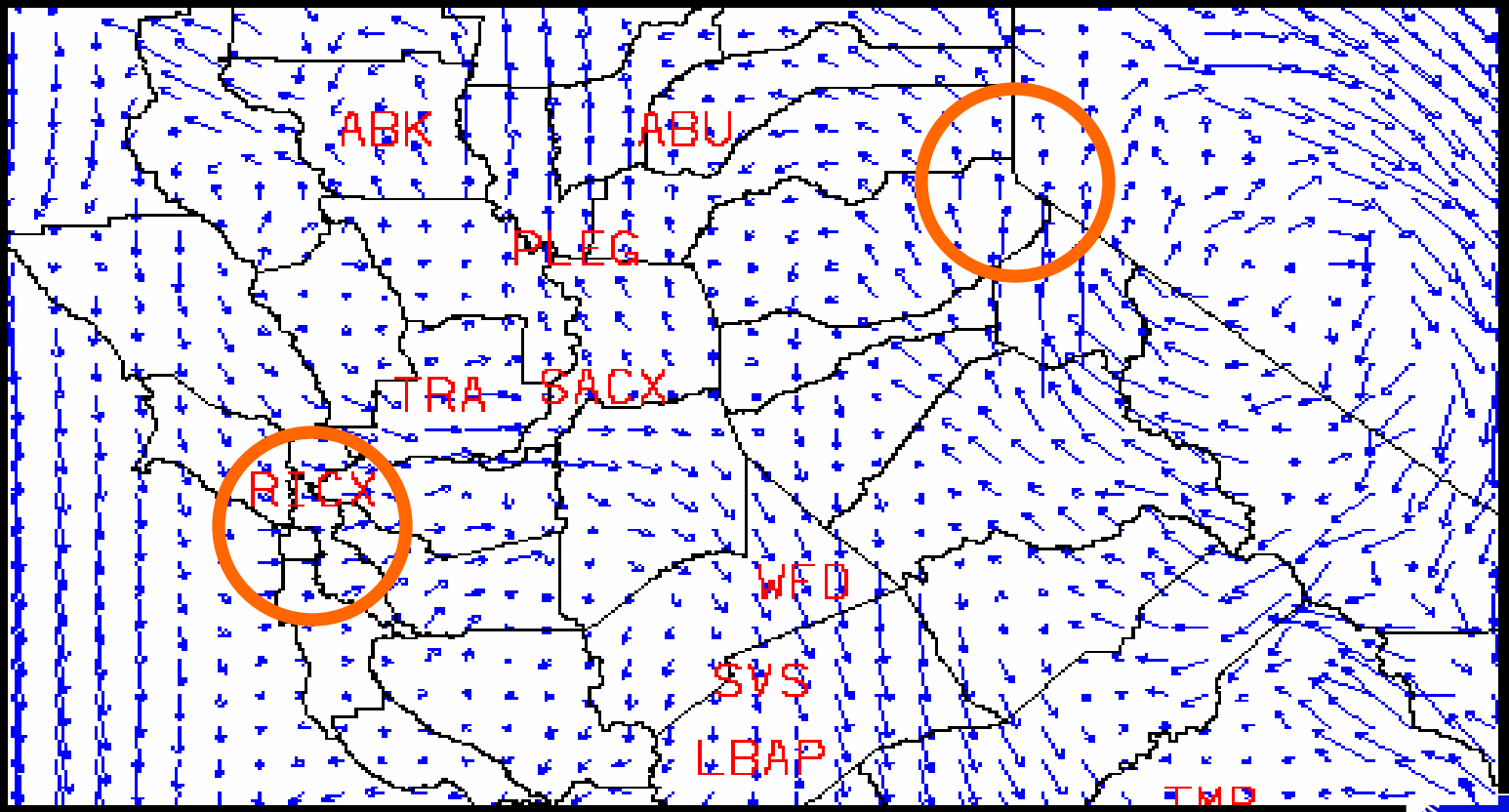


B02 (non-fdda)

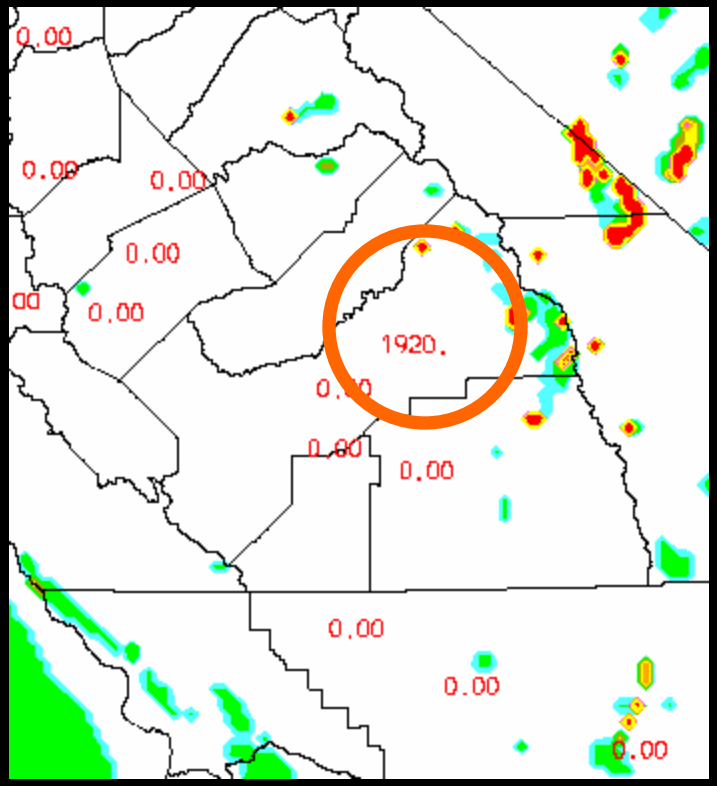
Missing RAWS, Buoy, and District Surface Observation Sites in B01 and B02



Missing Upper Air Soundings (for ex. OAK, RNO) in B01 and B02

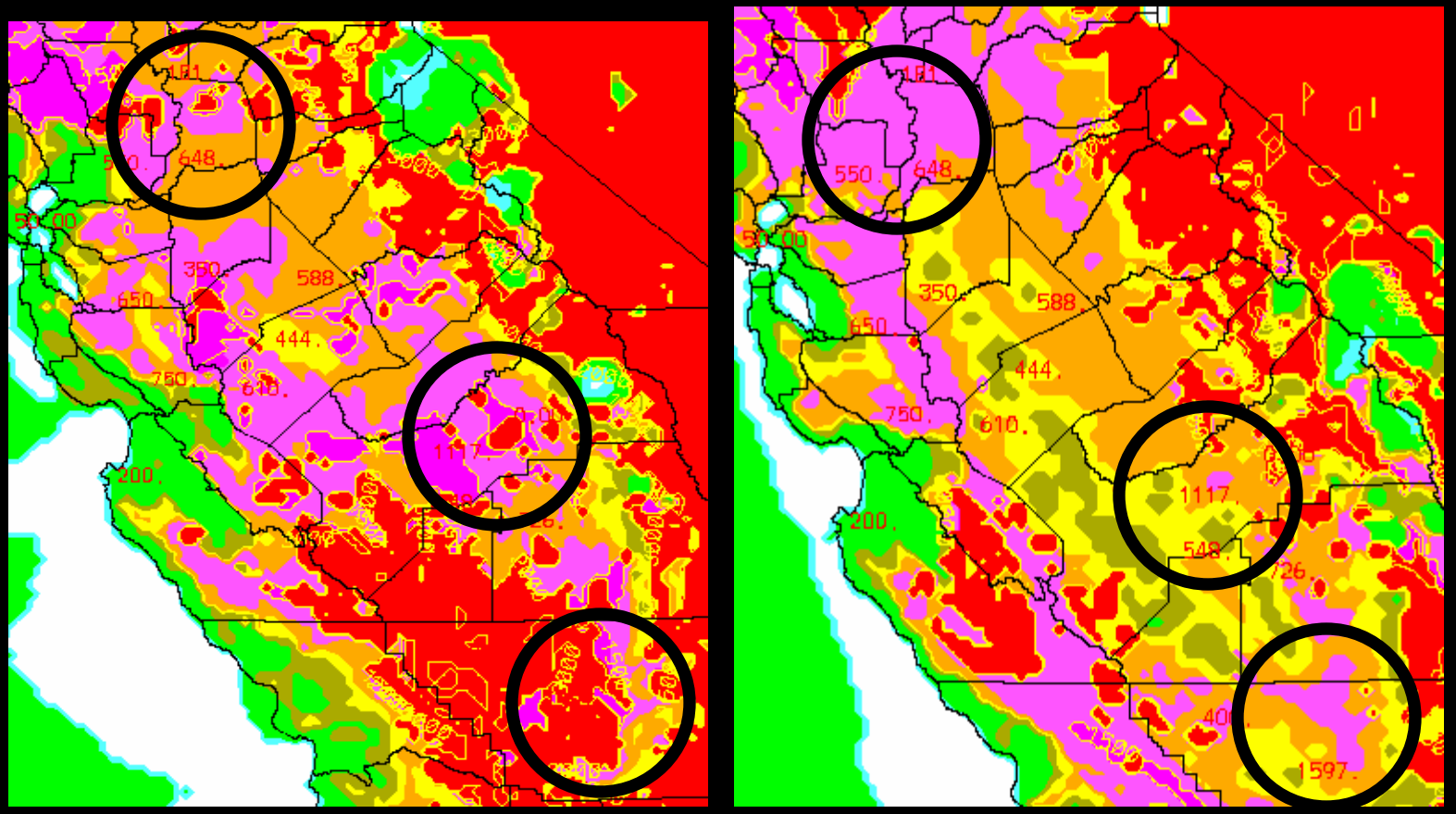


TMR –Trimmer Boundary Layer Mixing Height



B02 (non-fdda) at 0100 hrs Aug. 01, 2000

Boundary Layer Mixing Heights differences

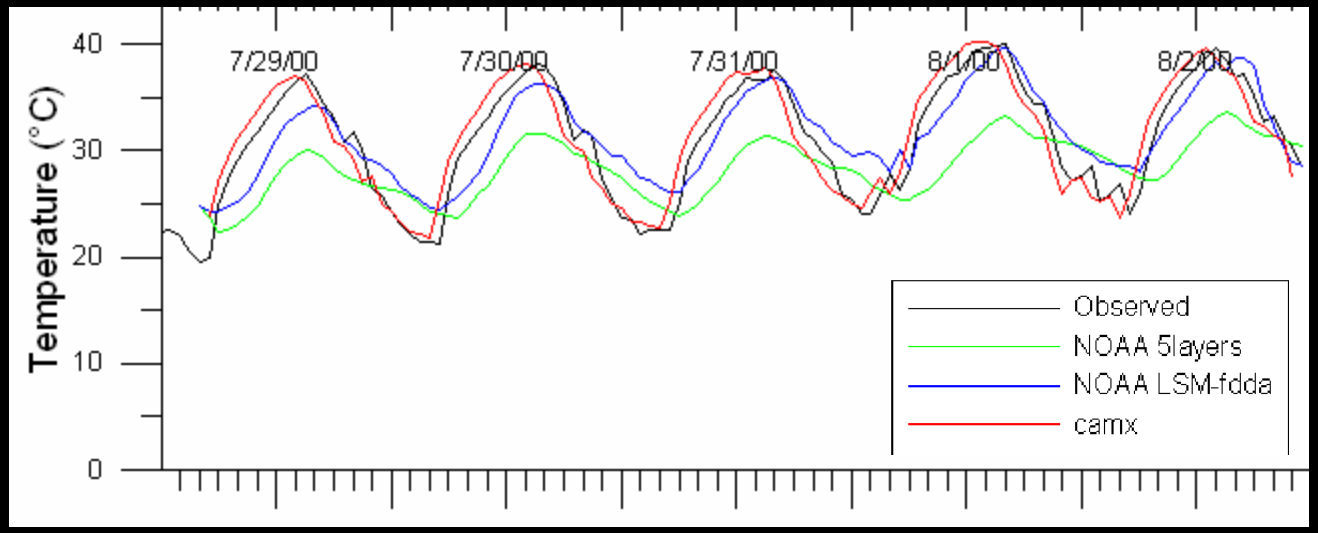


B01 (fdda) at 1500 hrs 8/1/2000

B02 (non-fdda) at 1500 hrs 8/1/2000

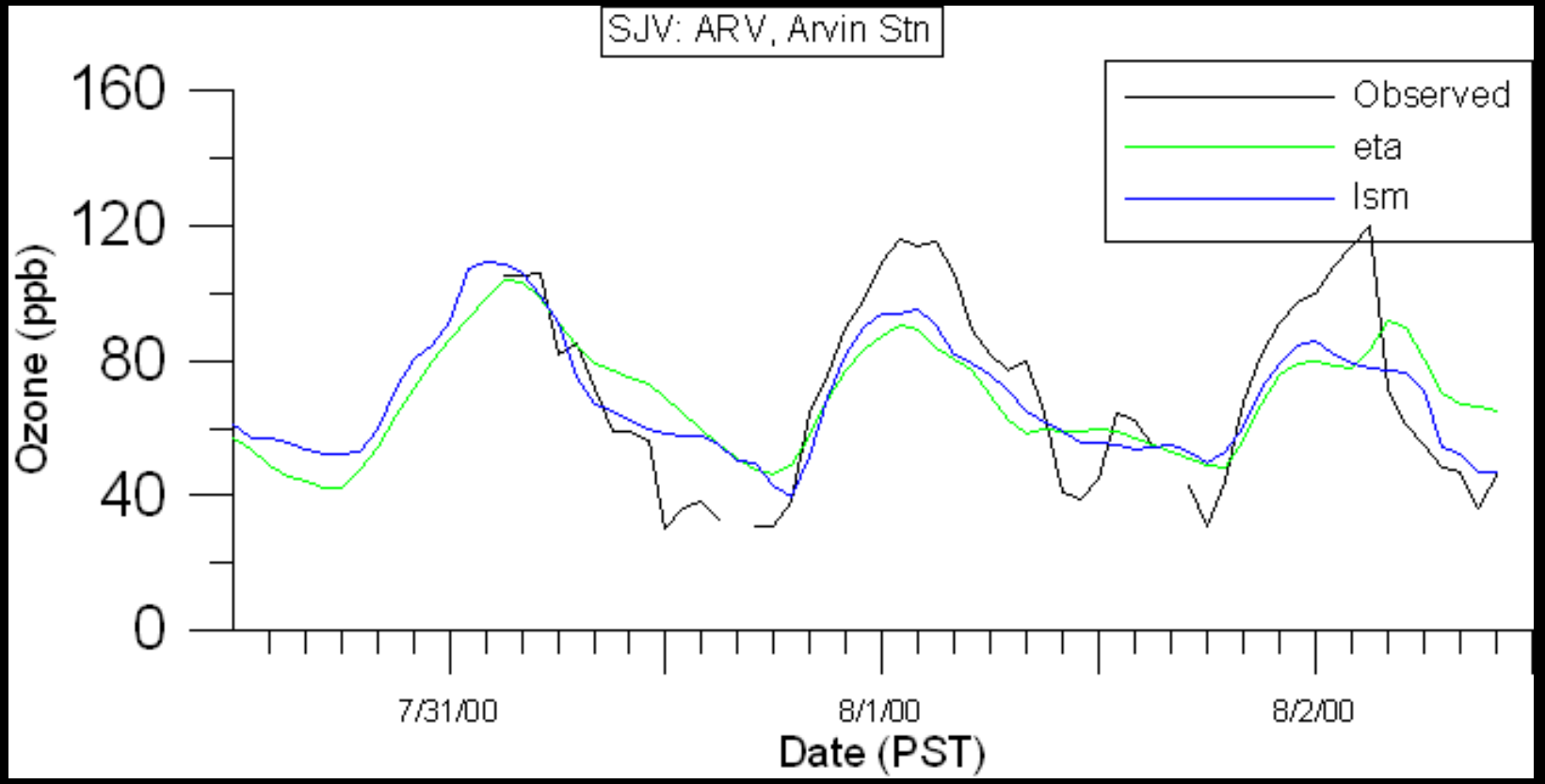
CCOS 2000 Surface Meteorology Plots

- MAXIMUM TEMPERATURES NOAA LSM-(fdda) cool bias, with the 5 layers (non-fdda) having an even cooler bias

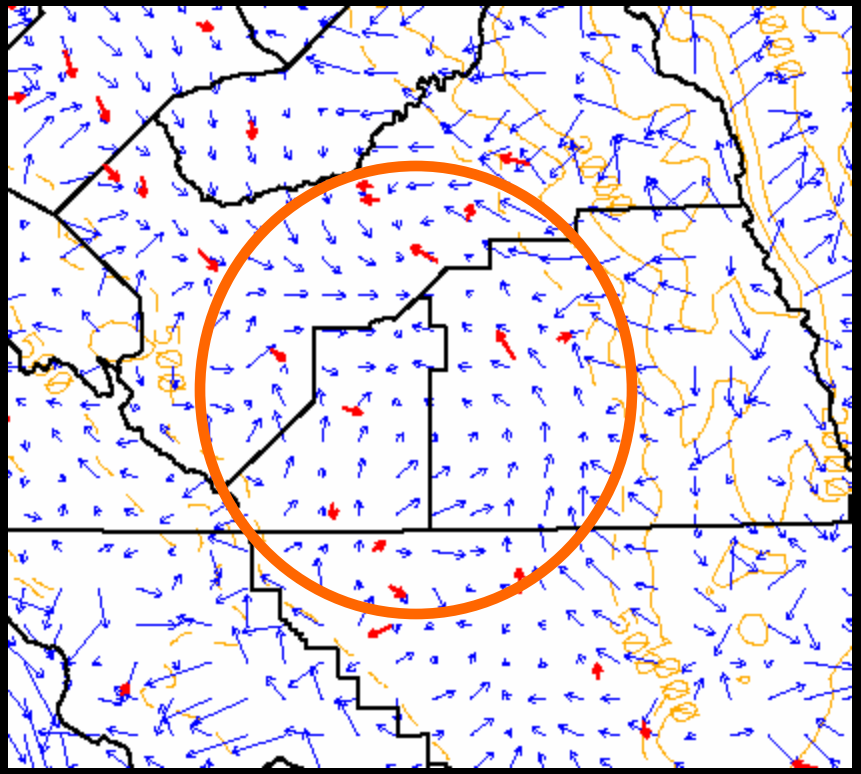


Arvin-Edison 2meter height

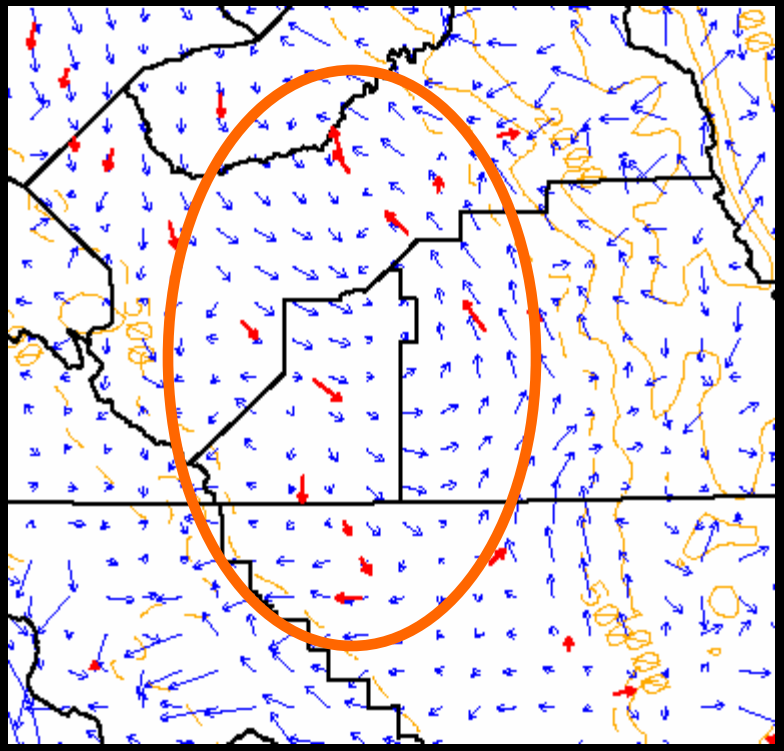
Observed Ozone higher than forecasted



Morning Eddy Flow Circulation – B01 (fdda) Present

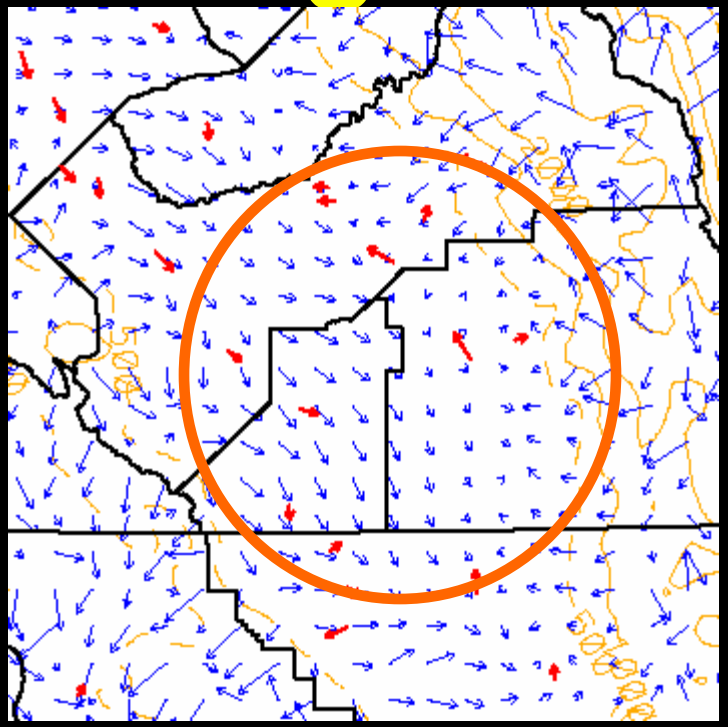


B01: 7/30 7:00 hrs.

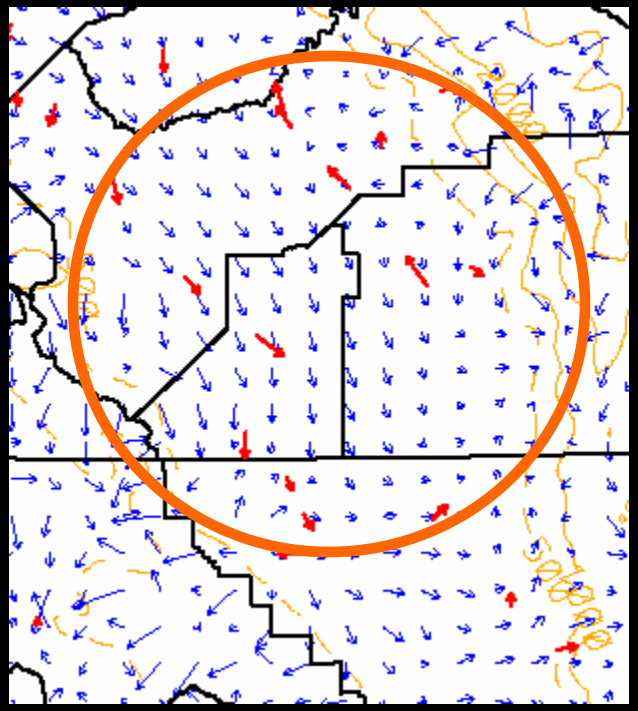


B01: 7/30 8:00 hrs

Morning Eddy Flow Circulation – B02 (non-fdda) Missing

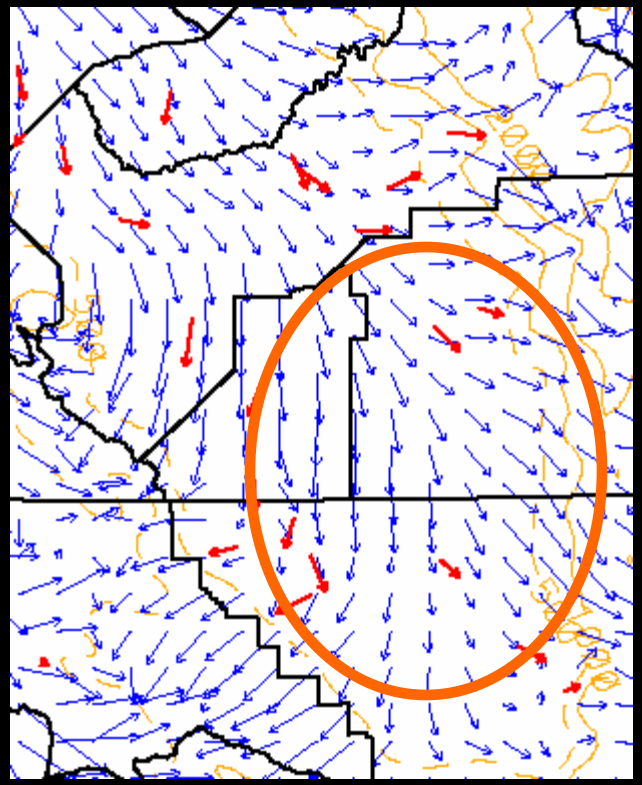


B02: 7/30 07:00 hrs.

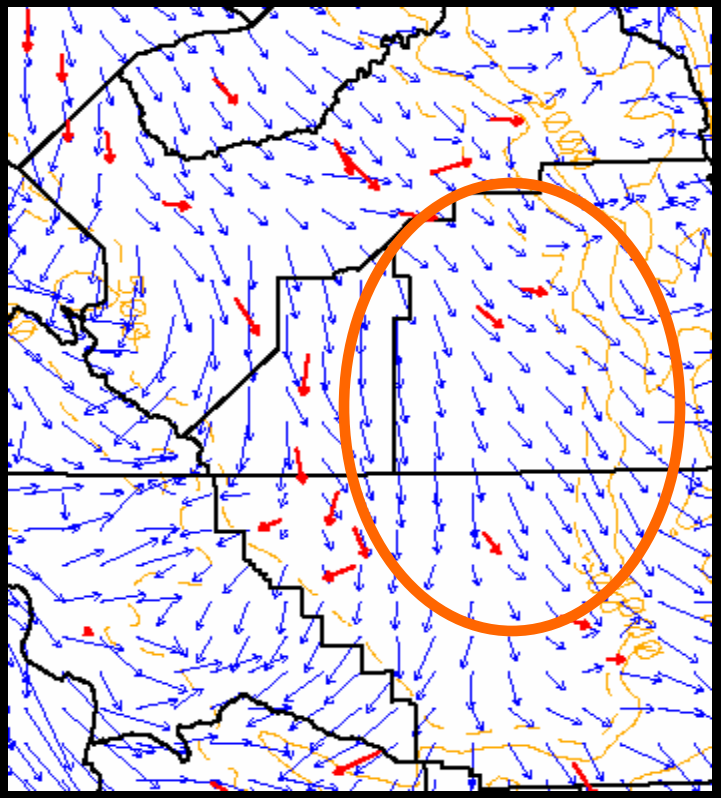


B02: 7/30 08:00 hrs.

Up-Valley Flow –B01 (fdda) Present

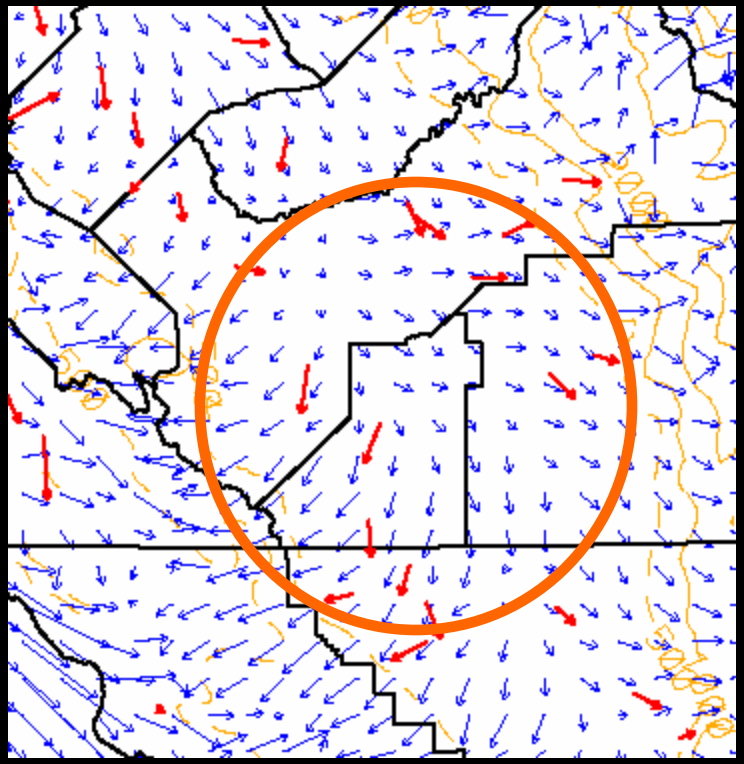


B01: 7/30 15:00 hrs.

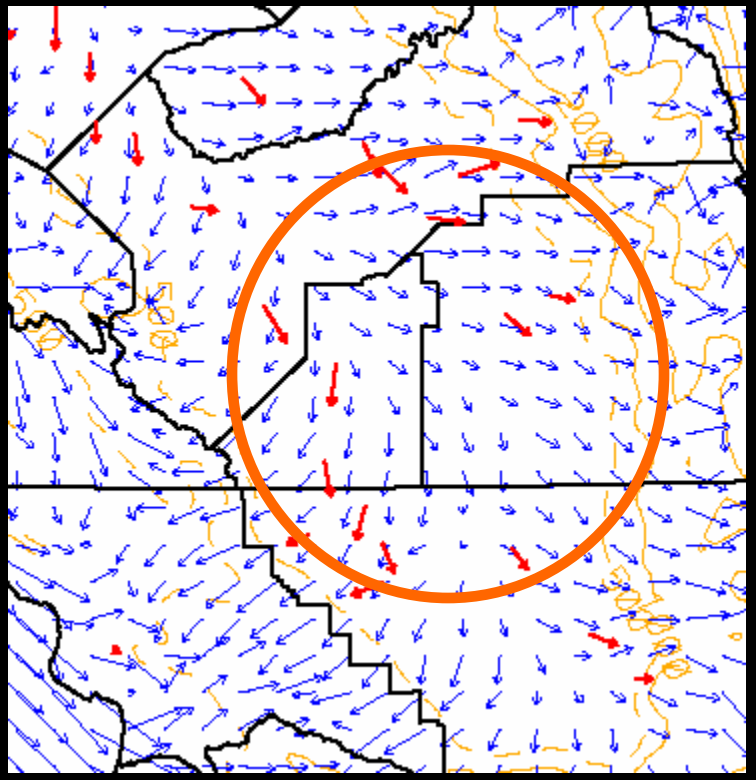


B01: 7/30 16:00 hrs.

Up-Valley Flow –B02 (non-fdda) Weak

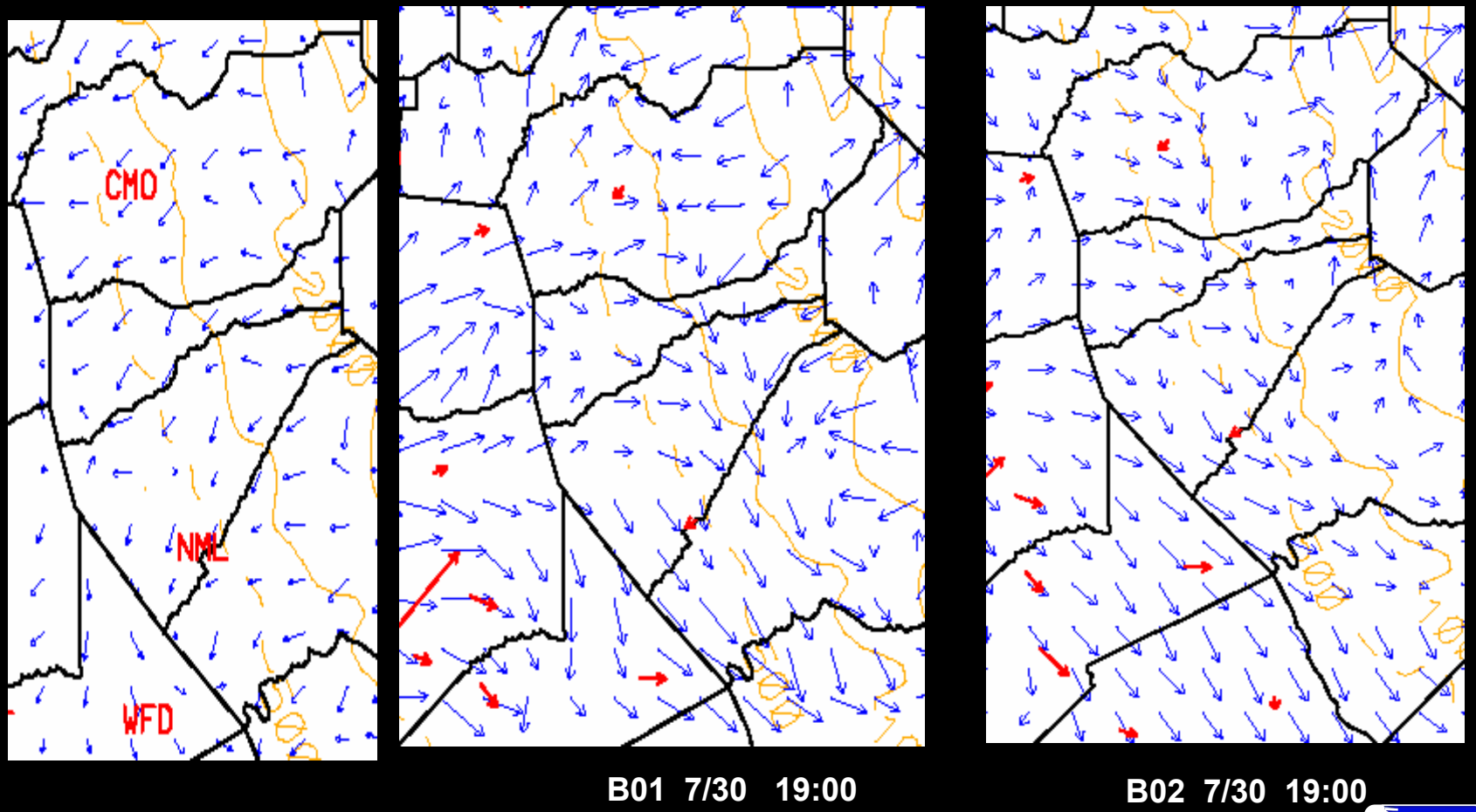


B02: 7/30 15:00 hrs.



B02: 7/30 16:00 hrs.

Slope Flow Timing

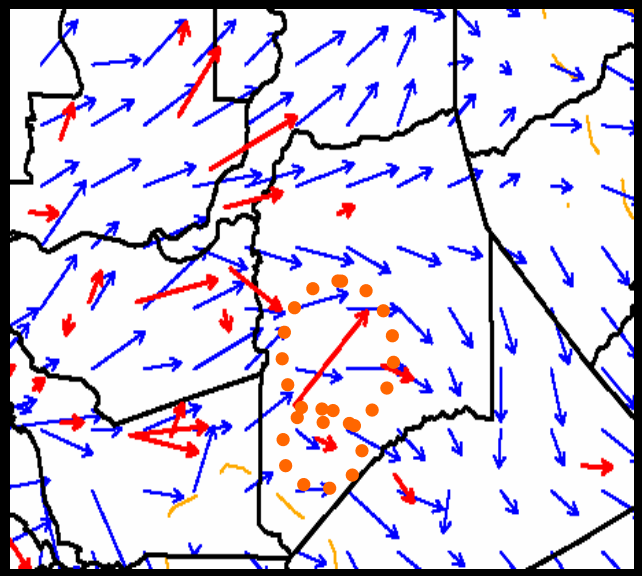


B01 7/30 19:00

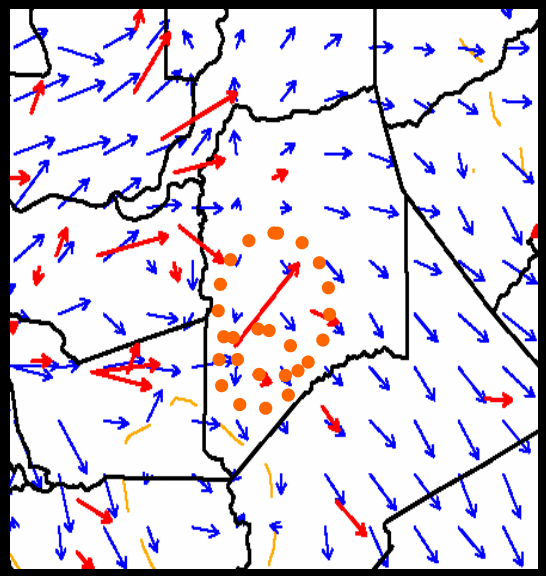
B02 7/30 19:00

Model B01 (fdda) and B02 (non-fdda) slope flow is slow by 2 hours

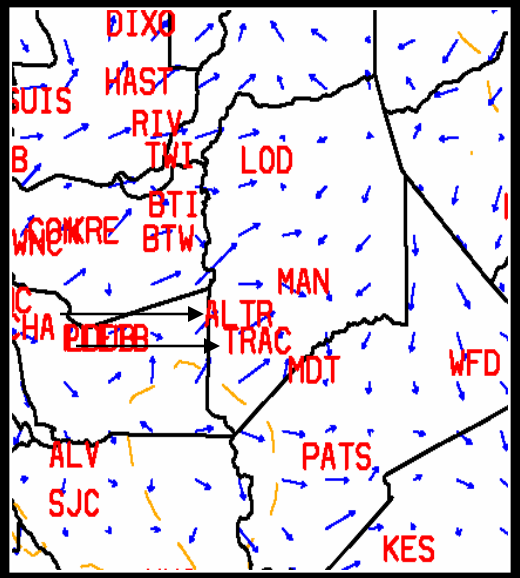
ALTR and TRC Surface Feature



B01 (fdda)



B02 (non-fdda)



ALTR consistently not representative of valley flow pattern.

SJVAPCD B01 Conclusions

STRENGTHS

- Afternoon Up Valley Flow and Morning Eddy Flow Circulations
- Boundary layer mixing heights closer to what was measured

WEAKNESS

- Mountain Slope Flow Timing Off (slow)
- Over representing wind fields where surface observations are not numerous

SJVAPCD B02 Conclusions

STRENGTHS

- Doesn't over emphasize wind flow fields were surface observations are sparse

WEAKNESS

- Afternoon Up Valley Flow and Morning Eddy Flow Circulations
- Boundary layer mixing heights are not close to what was measured
- Mountain Slope Flow Timing off (Slow)